

## REMARKS

By this amendment, Claims 1, 3 and 6 have been amended. Claims 7-10 have been added. No claims have been cancelled. Hence, Claims 1-10 are pending in the Application. Each issue raised by the Office Action mailed March 23, 2004 is addressed hereinafter.

## SUMMARY OF REJECTIONS/OBJECTIONS

### I. Issues Not Relating to Prior Art

Claims 1-6 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, in claims 1 and 6, the language “3/4 inch minus” was cited as being “indefinite as a way of expressing the size of the particles.” Accordingly, the term “3/4 inch minus” in Claims 1 and 6 has been amended to read “3/4 inch and less.” Therefore, applicant respectfully requests the rejection to be withdrawn.

### II. Issues Relating to Prior Art

Claims 1-6 were rejected under USC §103(a) as being unpatentable over US Patent No. 5,238,734 to Murray et al, (*Murray*) in view of either of US Patent No. 4,028,288 to Turner (*Turner*) or British Patent No. 1,586,882 (*British* ‘882). To establish a *prima facie* case of obviousness, there must be some suggestion or motivation to combine reference teachings. Second, there must be a reasonable expectation of success, and finally, the prior art references must teach or suggest all the claim limitations. MPEP §2142. Applicant respectfully submits that the combination of *Murray* and either *Turner* or *British* ‘882 does not teach every element of the claimed invention. Further, there is no suggestion or motivation to combine *Murray* with either *Turner* or *British* ‘882.

Therefore, the Office Action fails to present a *prima facie* case of obviousness, and the rejection of Claims 1-6 under §103(a) is respectfully traversed.

**Claim 1**

Claim 1, as amended, recites:

A molding material used to manufacture commercial products, the molding material comprises:

- (a) a plurality of recycled scrap tire particles, **substantially free from wire and steel**, having a surface area in the range of ¾ inch and less;
- (b) a **plurality of recycled plastic flakes** having a surface area; and
- (c) a bonding agent that coats substantially all of said surface areas of said tire particles and said plastic flakes,

wherein combination of said **recycled scrap tire particles having different surface areas**, said recycled **plastic flake having different surface areas**, and said bonding agent results in a molding material that can be used to make a strong, substantially rigid, and durable product.

(Emphasis added)

Claim 1 recites the combination of “recycled scrap tire particles having different surface areas” and “recycled plastic flakes having different surface areas.” This feature is not taught by *Murray*, *Turner*, *British* ‘882, or any of their combinations. First, neither reference teaches the use of **scrap tire particles and plastic particles of varying surface areas**. In fact, the Office Action states, “*Murray* lacks a disclosure ... that the tire particles and recycled plastic flakes necessarily have different surface areas as recited in instant claim 1.”

The Office Action, however, states that there is motivation or suggestion to modify *Murray* to incorporate scrap tire particles with varying surface areas. Specifically, the Office Action states, “while it is not explicitly shown that the tire particles would be

of different sizes, it is submitted that such would have been obvious to better fill a mold with the particular ... the smaller particles would allow better packing of the mold in that these would fill up spaces too small for the larger particles and henceforth allow for a more compact molding to be made, as is generally well known in the art.”

The Office Action fails to demonstrate how use of scrap tire particles having different surface areas is well known in the art. However, even if varying surface areas allows better packing, *Murray* nevertheless teaches a method that does not suggest or motivate the use of scrap tire particles of varying surface areas to allow better packing. In fact, *Murray* teaches a compression method that would circumvent the need to use particles of varying sizes for better packing. In particular, the compression method of *Murray* “ensures that the entire mold cavity is filled,” and “forces the fragments of rubber into closer contact with the adhesive.” (*Murray*, Col. 5, lines 49- 56) Thus, *Murray* teaches a method that obviates the need for various particle sizes because the larger particles would fill up all spaces using the described compression method. Thus, no teaching in *Murray* suggests, much less discloses, the use of particle fragments of various surface areas in conjunction with plastic flakes of various surface areas.

Also, neither *Murray*, *Turner* nor *British* ‘882 teach the use of **plastic “flakes”** in combination with the scrap tire particles. First, as the Office Action puts forth, *Murray* “lacks a disclosure of employing recycled plastic flakes in the mixture.” Similarly, no language in *Turner* or *British* ‘882 expressly or inherently teaches the use of **plastic flakes**. Therefore, Applicant respectfully submits that neither *Turner* nor *British* ‘882 teach the use of **plastic flakes** as required by Claim 1.

Finally, *Murray* does not teach to use scrap tire that is **substantially free from wire and steel**, as required by Claim 1. Moreover, attempting to modify *Murray*, either

in light of secondary references or through knowledge of one skilled in the art, to use scrap tire particles with the steel removed would violate a principle of operation of *Murray*. The MPEP states, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. MPEP §2143.01 citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

Murray clearly teaches away from the removal of wire and steel from scrap tire particles. *Murray* states, “ more elaborate systems that can remove strands or pieces of steel ... or other materials used in the reinforcing belt, are described in various other patents ... **[h]owever, such additional processing tends to be relatively expensive.**” (*Murray*, Col. 1, Lines 31-38). An “object of the invention is to provide a use for discarded tires which can utilize fragments of rubber without requiring expensive processing to remove strands of steel ... or other reinforcing material from the rubber.” (*Murray*, Col. 3, Lines 28-32). A “ **key feature** of the subject invention is that the **rubber fragments do not need to be treated by a process to remove strands of steel** ... which are commonly used to provide reinforcing belts in tires.” (*Murray*, Col. 4, Lines 60-64) Therefore, the use of rubber fragments without the removal of strands of steel or other materials is clearly a principle of operation of the *Murray* invention.

Further, it is a principle that is central to *Murray*, allowing production of rail ties that are economical and hence viable alternatives to rail ties made of wood. Specifically, *Murray* states “[a] third object of the subject invention is to provide a method of recycling discarded tires into products that will substitute for lumber in railroad ties, thereby reducing the number of trees that must be cut down in order to provide products that people need.” (*Murray*, Col. 3, lines 33-37). By “avoiding the need for purifying the

rubber, the subject invention makes it much more economical to convert discarded tires into economically competitive railroad ties.” (*Murray*, Col 4 line 66 - Col. 5, line 2).

Hence, any proposed modification of *Murray* to include the removal of wire and steel as required by Claim 1, would violate a principle of operation central to *Murray*. See MPEP §2143.02. *Murray* cannot render Claim 1 *prima facie* obvious even in light of references that do teach the removal of wire and steel.

Therefore, because *Murray*, *Turner* and *British '882* do not teach all of the limitations of Claim 1, Applicant respectfully submits that the Office Action fails to present a *prima facie* case of obviousness, and the rejection of Claim 1 under §103(a) is respectfully traversed.

Independent Claim 6 recites similar limitations as those discussed above in regards to Claim 1. Therefore, it is respectfully submitted that the rejection of Claim 6 under §103(a) is traversed for at least the same reasons discussed above as to Claim 1.

### **III. Pending Claims**

The pending claims not discussed so far are dependant claims that depend on an independent claim that is discussed above. Because each of the dependant claims include the limitations of claims upon which they depend, the dependant claims are patentable for at least those reasons the claims upon which the dependant claims depend are patentable. Removal of the rejections with respect to the dependant claims and allowance of the dependant claims is respectfully requested. In addition, the dependent claims introduce additional limitations that independently render them patentable. Due to the fundamental difference already identified, a separate discussion of those limitations is not included at this time.

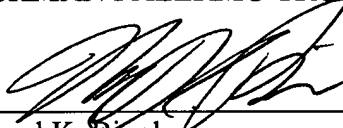
For the reasons set forth above, Applicant respectfully submits that all pending claims are patentable over the art of record, including the art cited but not applied.

Accordingly, allowance of all claims is hereby respectfully solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

Respectfully submitted,

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on June 23, 2004 by Trudy Bagdon